

18. RECORDS OF TURTLES FROM PAKHUI WILDLIFE SANCTUARY, ARUNACHAL PRADESH, NORTHEAST INDIA.

The northeastern region of India has a high diversity of turtles, comprising at least 17 species (Das 1990). Many species are rare or of indeterminate status. Few locality records exist from Arunachal Pradesh (Das 1995). Four turtle species were recorded during a six month field project (November 1995 to April 1996) in Pakhui Wildlife Sanctuary (WLS) in East and West Kameng districts of Arunachal Pradesh. All the four species recorded are endemic to South Asia (Das 1994).

Pakhui WLS (26° 53.7' N - 27° 16.2' N lat. and 92° 7.5' E - 92° 22' E long.) covers an area of 862 sq. km and the terrain is primarily hilly with elevations ranging from 200 to 1500 m above msl. Pakhui WLS is bordered on the south by the Nameri WLS and reserve forests of Assam. The area is drained by two major rivers, the Bhareli and the Pakke which are distributaries of the Brahmaputra river. The vegetation type is mainly tropical semi-evergreen with several evergreen species as well as deciduous elements. Canes and palms are common in the moister areas near small *nalas* (= minor streams). The sanctuary is located on the north bank of the Brahmaputra. Several perennial hill streams and smaller *nalas* crisscross the area. Tall grassy patches are found along the larger perennial streams such as the Khari and Lalung *nalas* in the Khari area. The sandy banks along these fast-flowing streams are strewn with pebbles and boulders and form a good undisturbed habitat for hardshell and softshell turtles. At many places, rock pools are also formed along cliffs. There is practically no disturbance, except for occasional cane-cutters in winter. All along the length of Khari and Lalung *nalas*, there are sandy banks and boulders. The combined length of these two *nalas*, which originate in the hills and join at Khari from opposite directions, is around 20-30 km. The locals informed me that they found turtle nests and remains of egg shells along

the sandy banks. However, I came across turtle tracks along the sandy banks of Khari *nala* only once.

In November 1995, I found a hardshell turtle caught in a bamboo fishing basket which had been set up on Khari *nala* to catch fish. The specimen was small, and was later identified with the help of a colleague, Rashid Raza, as the Assam roofed turtle (*Kachuga sylhetensis* Jerdon 1870). The identification was made on the basis of the prominent keel, the highly serrated posterior marginals and the second vertebral keel being longer than the third vertebral keel. The individual was a juvenile (CL c. 9-10 cm).

The Assam roofed turtle is restricted to the evergreen forest tracts of northeastern India, with previous locality records from Assam, Nagaland and Meghalaya (Das 1995). Fast-flowing streams and small rivers in the hills of northeast India forms its habitat (Das 1985, 1991). This species is reportedly rare (Das 1991, Bhupathy *et al.* 1992), and is the least known with the narrowest distributional range (Das 1995). The first record of this species from the north bank of the Brahmaputra river was relatively recent (Das 1990). Later Bhupathy *et al.* (1992) and Choudhury (1993) reported it from Nameri WLS and Ghilamara in Assam respectively. The present record is from Khari *nala* in Pakhui WLS, which is just 100-200 m from the Assam-Arunachal Pradesh border. This extends the distribution further north and is the first record of the species from Arunachal Pradesh.

In subsequent months, I did not find any turtles or evidence thereof along the stream beds. In April 1996, I found four turtles in Khari *nala*. Two individuals were the Indian peacock softshell (*Aspideretes 'urum* Gray 1831) (CCL = 9.8 cm, CCW = 9.5 cm, CPL = 10 cm, CPW = 8.5 cm). Both were juveniles, the measurements given above are of the bigger individual (see Appendix 1 for a description).

The Indian peacock softshell turtle is widespread in the northern part of the Indian subcontinent, in the drainage of the Ganga, Brahmaputra and Subarnarekha rivers (Das 1995). It inhabits rivers, ponds and lakes (Das 1985; 1991). This species has been reported by Bhupathy *et al.* (1992) from two localities in eastern Arunachal Pradesh (south bank of the Brahmaputra), all other records being from Assam.

The other two were of the species Asian leaf turtle (*Cyclemys dentata* Gray 1831). The measurements of the two *Cyclemys* are CCL = 9 cm, CCW = 8.8 cm, CPL = 8.6 cm, 7.3 cm, CPW = 7.2 cm, 6.2 cm. Its distribution ranges from northeast India to southeast Asia. This species has been recorded earlier from localities in Assam and Meghalaya (Das 1995) and three localities in Arunachal Pradesh (Bhupathy *et al.* 1992).

In April 1996, Mr. Pratap Singh (DCF Wildlife, Itanagar) and I went to a place called Pukhri (a marshy pond on a hilly plateau in totally undisturbed semi-evergreen forest). The pond is about 50 m wide. We sighted three turtles basking in the sun, on a fallen log at the edge of the water. I could tentatively identify it as the Indian flapshell turtle (*Lissemys punctata* Bonnaterre 1789). We could only approach them to about 15 m and observed them with binoculars. They could not be caught or measured for proper identification. The flapshell occurring in the northeast is a different subspecies and is widespread in the Brahmaputra drainage (Das 1991). It is known to bask on the banks of ponds, on driftwood and floating vegetation (Das 1995).

Pakhui WLS appears to support a highly diverse turtle population, and an intensive survey for turtles should lead to more detailed information regarding nesting seasons, habitat and localities, and further new records. The area

is undisturbed and there is practically no exploitation for meat or egg collection. Das (1990) stressed the need for establishing the zoogeographic patterns of many of these species. Bhupathy *et al.* (1992) recorded that in Assam and Arunachal Pradesh there are reports of 19 species of freshwater and land tortoises. *Kachuga sylhetensis* was reported as rare in northeast India, known only from a few specimens and locality records. The Indian peacock softshell turtle and the Asian leaf turtle were reportedly more common. The peacock softshell was recorded in several markets in Upper Assam (Frazier and Das 1994). Barring the Asian leaf turtle, the species recorded are listed in Schedule I of the Wildlife (Protection) Act, 1972.

Besides the two specimens seen in the wild, I came across a peacock softshell and two Assam roofed turtles in an aquarium inside a small roadside restaurant on the Tezpur-Tinsukia highway at Jaklabandha near Bokakhat in April 1996. Two spotted pond turtles (*Geoclemys hamiltonii* Gray 1831) were also kept in the same tank. The owner reportedly bought them for Rs. 120 from a Arunachali, two to three years ago. This species inhabits shallow standing water bodies and is common in Kaziranga National Park which was close to the area. It has been reported from Assam and Meghalaya in northeast India (Das 1995). The species is protected under Schedule I of the Wildlife (Protection) Act, 1972 and in Appendix I of CITES.

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APPENDIX 1

COLORATION AND MORPHOLOGICAL CHARACTERISTICS OF TURTLES

Hardshell turtles - two of same species (Asian leaf turtle)

Both individuals had 10 marginals on each side, serration at the posterior marginals starting from 7th till 10th; four on midback, 2 in front, 2 small behind. Hooked jaw, webbed feet, though digits free, five claws on forefeet, carapace flattened.

Bigger specimen - female (flat plastron)

Tail length - 2 cm. Carapace covered with moss and algae and a light cream brown colour with small black radiating lines on each scute.

Smaller specimen - male (concave plastron).

Tail length - 1.8 cm. Carapace brown, plastron, a dark rufous brown colour.

Softshell turtles - two of same species (Peacock softshell turtle)

Two of the same species, both juvenile, though one about twice the size of the smaller one. Aggressive, active, tries to bite, neck extensible, protrudes long neck. Coloration of both same. Four very prominent large eye spots on carapace. Eye spot - black circle surrounded by orange yellow ring, the outer circle around the yellow ring also black. Whole body mottled, blotched pattern of ochre yellow brown rectangular patches, stripes and spots, dark brown to black background. Circular carapace. Plastron greyish. Head with black reticulations and yellow patches. Five claws on digits on the hind feet. Left hindfoot length - 4 cm, left forefoot length - 3.2 cm (larger specimen).

19. FIRST RECORD OF THE SPOTTED FOREST GECKO *GECKOELLA COLLEGALENSIS* (BEDDOME, 1870) FROM GIR FOREST, GUJARAT STATE, INDIA

(With one text-figure)

On 8th November, 1996 at 18:05 hrs a brown coloured large spotted gecko was observed under stones, along with another lizard species *Mabuya macularia* and *Hemidactylus brookii*, at Pilhipat area of Gir forest, Sasan, Junagadh dist. On examination it was confirmed to be *Geckoella collegalensis*.

The measurements, colour and scales details are as follows: total body length 7 cm; snout to vent length 4 cm and tail 3 cm. Head moderate, snout larger, eyes large with vertical pupil, ear-opening small, oval. Tail shorter than the head and body length, and swollen at the base. Lateral fold absent. Digits clawed and